



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,407	03/01/2002	Carol L. Thompson	10001153	6225
7590	06/30/2005		EXAMINER	
HEWLETT-PACKARD COMPANY Intellectual Property Administration P.O. Box 272400 Fort Collins, CO 80527-2400			INGBERG, TODD D	
			ART UNIT	PAPER NUMBER
			2193	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/087,407	THOMPSON ET AL.	
	Examiner	Art Unit	
	Todd Ingberg	2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 February 2002.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-20 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 01 March 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/2/2002</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1 – 20 have been examined.

Information Disclosure Statement

1. The Information Disclosure Statement filed March 1, 2002 has been considered.

Specification

2. The abstract of the disclosure is objected to because it is longer than 150 words.

Correction is required. See MPEP § 608.01(b).

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Legal words like “System” and “Method” should be removed.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 – 10 and 16 - 20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed matter is not embodied on a tangible readable medium. The Examiner offers one of many ways to overcome the rejection.

Claim 1

A method for providing a graphic representation of code characteristics tangibly embodied on a computer readable medium, the method comprising: acquiring a block of code in a program; analyzing the block of code for at least one instruction characteristic; generating a unique graphical indicator for the at least one instruction characteristic; and displaying the unique graphical indicator with the block of code to indicate that the at least one instruction characteristic is present in the block of code.

Claim 6

A system for providing a graphic representation of code characteristics tangibly embodied on a computer readable medium, comprising: means for acquiring a block of code in a program; means for analyzing the block of code for at least one instruction characteristic; means for generating a unique graphical indicator for the at least one instruction characteristic; and means for displaying the unique graphical indicator with the block of code to indicate that the at least one instruction characteristic is present in the block of code.

Claim 16

A system for providing a graphic representation of code characteristics tangibly embodied on a computer readable medium, comprising:

a debug tool that indicates instruction characteristics in a program, wherein the debug tool further comprises:

- logic for acquiring a block of code in the program;
- logic for analyzing the block of code for the at least one instruction characteristic;
- logic for generating a unique graphical indicator for the at least one instruction characteristic; and
- logic for displaying the unique graphical indicator with the block of code to indicate that the at least one instruction characteristic is present in the block of code.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6, 11 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by

Morganelli et al USPN #6,425,120 filed January 14, 2000 published July 23, 2002.

Claim 1

Morganelli teaches a method for providing a graphic representation of code characteristics, the method comprising: acquiring a block of code in a program; analyzing the block of code for at least one instruction characteristic; generating a unique graphical indicator for the at least one instruction characteristic; and displaying the unique graphical indicator with the block of code to indicate that the at least one instruction characteristic is present in the block of code.

Examiner's Response

Art Unit: 2193

Morganelli teaches a method for providing a graphic representation of code characteristics (See figure 4D and associated text), each with unique ID (Fig 4D, 434a, 426a). Block of code Figure 4D, #418.

Claim 6

Morganelli teaches a system for providing a graphic representation of code characteristics, comprising: means for acquiring a block of code in a program; means for analyzing the block of code for at least one instruction characteristic; means for generating a unique graphical indicator for the at least one instruction characteristic; and means for displaying the unique graphical indicator with the block of code to indicate that the at least one instruction characteristic is present in the block of code.

Examiner's Response

As per claim 1.

Claim 11

Morganelli teaches a computer readable medium for a graphic representation of code characteristics, comprising: logic for acquiring a block of code in a program; logic for analyzing the block of code for at least one instruction characteristic; logic for generating a unique graphical indicator for the at least one instruction characteristic; and logic for displaying the unique graphical indicator with the block of code to indicate that the at least one instruction characteristic is present in the block of code.

Examiner's Response

As per claim 1.

Claim 16

Morganelli teaches a system for providing a graphic representation of code characteristics, comprising:

a debug tool that indicates instruction characteristics in a program, wherein the debug tool further comprises:

logic for acquiring a block of code in the program;

logic for analyzing the block of code for the at least one instruction characteristic;

logic for generating a unique graphical indicator for the at least one instruction characteristic; and

logic for displaying the unique graphical indicator with the block of code to indicate that the at least one instruction characteristic is present in the block of code.

Examiner's Response

As per claim 1 and TI page 3-29.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 – 20 are rejected under 35 U.S.C. 103(e) as being unpatentable over Morganelli et al USPN #6,425,120 filed January 14, 2000 published July 23, 2002 in view of TMS320C6X Optimizing Compiler User's Guide, Texas Instrument 2000 (Called TI).

Morganelli teaches a environment to support visual debugging and optimization but Moranelli does not teach the underlying theory of compiler optimization. It is TI who teaches compiler optimization. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine Morganetti and TI, because visual debuggers and optimization make development environments easier to use.

Claim 2

The method of claim 1, wherein the at least one code characteristic is selected from the group consisting of a user-visible sub-statement instruction, a loop entry instruction, a loop body instruction, dead code instruction, and a data-speculative load instruction.

Examiner's Response

TI teaches at least one a data-speculative load instruction (TI, pages 3-4, 3-4 to 3-11 and Appendix A, pipelining)

Claim 3

The method of claim 1, wherein the unique graphical indicator is selected from the group consisting of text color, background color, a tine, an arc, a box and a tag.

Examiner's Response

Morganelli, Figure 4D.

Claim 4

The method of claim 1, wherein the displaying the unique graphical indicator step further comprises: indicating if the at least one instruction characteristic is a loop-carried dependency.

Examiner's Response

Ti, page 3-13

Art Unit: 2193

Claim 5

The method of claim 1, wherein the displaying the unique graphical indicator step further comprises: indicating if the at least one instruction characteristic is a data-speculative load instruction with at least one possible conflicting store.

Examiner's Response

instruction (TI, pages 3-4, 3-4 to 3-11 and Appendix A, pipelining)

Claim 7

The system of claim 6, wherein the at least one code characteristic is selected from the group consisting of a user-visible sub-statement instruction, a loop entry instruction, a loop body instruction, dead code instruction, and a data-speculative load instruction.

Examiner's Response

As per claim 2.

Claim 8

The system of claim 6, wherein the unique graphical indicator is selected from the group consisting of text color, background color, a line, an arc, a box and a tag.

Examiner's Response

As per claim 3.

Claim 9

The system of claim 6, wherein the displaying means further comprises: means for indicating if the at least one instruction characteristic is a loop-carried dependency.

Examiner's Response

As per claim 4.

Claim 10

The system of claim.. 6, wherein the displaying means further comprises: means for indicating if the at least one instruction characteristic is a data speculative load instruction with a1: least one possible conflicting store.

Examiner's Response

As per claim 2.

Claim 12

The computer readable medium of claim 11, wherein the at least one code characteristic is selected from the group consisting of a user-visible sub-statement instruction, a loop entry instruction, a loop body instruction, dead code instruction, and a data-speculative load instruction.

Examiner's Response

As per claim 2.

Claim 13

The computer readable medium of claim 11, wherein the unique graphical indicator is selected from the group consisting of text color, background color, a line, an arc, a box and a tag.

Art Unit: 2193

Examiner's Response

As per claim 3.

Claim 14

The computer readable medium of claim 11, wherein the displaying logic further comprises: logic for indicating if the at least one instruction characteristic is a loop-carried dependency.

Examiner's Response

As per claim 4.

Claim 15

The computer readable medium of claim 11, wherein the displaying logic further comprises: logic for indicating if the at least one instruction characteristic is a data speculative load instruction with ad least one possible conflicting store.

Examiner's Response

As per claim 5.

Claim 16

Morganelli teaches a system for providing a graphic representation of code characteristics, comprising:

a debug tool that indicates instruction characteristics in a program, wherein the debug tool further comprises:

- logic for acquiring a block of code in the program;
- logic for analyzing the block of code for the at least one instruction characteristic;
- logic for generating a unique graphical indicator for the at least one instruction characteristic; and
- logic for displaying the unique graphical indicator with the block of code to indicate that the at least one instruction characteristic is present in the block of code.

Examiner's Response

As per claim 1 and TI page 3-29.

Claim 17

The system of claim 16, wherein the at least one code characteristic is selected from the group consisting of a user-visible sub-statement instruction, a loop entry instruction, a loop body instruction, dead code instruction, and a data-speculative load instruction.

Examiner's Response

As per claim 2.

Claim 18

The system of claim 16, wherein the unique graphical indicator is selected from the group consisting of text color, background color, a line, an arc, a box and a tag.

Examiner's Response

As per claim 3.

Claim 19

The system of claim 16, wherein the displaying logic further comprises: logic for indicating if the at least one instruction characteristic is a loop-carried dependency.

Examiner's Response

As per claim 4.

Claim 20

The system of claim 16, wherein the displaying logic further comprises: logic for indicating if the at least one instruction characteristic is a data speculative load instruction with at least one possible conflicting store.

Examiner's Response

As per claim 5.

Correspondence

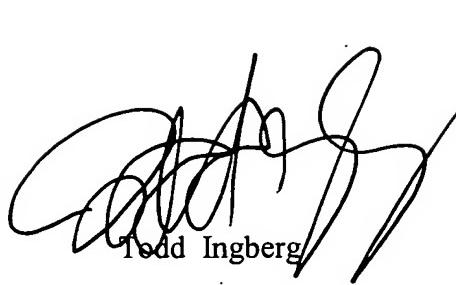
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Todd Ingberg whose telephone number is (571) 272-3723. The examiner can normally be reached on during the work week..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/087,407
Art Unit: 2193

Page 9



Todd Ingberg

Primary Examiner

Art Unit 2124

TI